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EXAMINER

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This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

**Part II SUMMARY OF ACTION**

1. ☒ Claims 7-125 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2. ☐ Claims \_\_\_\_\_ have been cancelled.

3. ☐ Claims \_\_\_\_\_ are allowed.

4. ☒ Claims 7-125 are rejected.

5. ☐ Claims \_\_\_\_\_ are objected to.

6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).

12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☒ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

### Part III DETAILED ACTION

1. A substitute specification in proper idiomatic English and in compliance with 37 C.F.R. § 1.52 (a and b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter. Such statement must be a verified statement if made by a person not registered to practice before the Office.

2. The drawings are objected to because: In Figs. 4 and 6, " $V_L$ " above the vertical axis should apparently be deleted. In Figs. 7 and 9, "RESISTOR" or "RESISTANCE" is apparently misspelled. Fig. 11 appears to be missing a connection between the drain of Q and the line that carries  $V_L$ . In Fig. 32, "OSCILLATOR" is apparently misspelled. In Figs. 35 and 36, "REGULATOR" is apparently misspelled.

Applicant is required to submit a proposed drawing correction in response to this Office action. However, correction of the noted defect can be deferred until the application is allowed by the examiner.

3. Claims 7-125 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, "small dependence" and "large dependence" are vague and apparently misdescriptive, as they do not appear in the specification. If "the output of said second circuit is coupled to the output of said first circuit" as in the manner of, e.g.,  $BL_1$  and  $BL_2$  in Fig. 7, or  $BL_1$  and  $BL_0$  in Fig. 7, then it is apparently not possible that the respective output voltages of the "first circuit" and "second circuit" can be properly claimed to be different in terms of "dependence ... (on) the external supply voltage" or anything else. If "the output of said second circuit is coupled to the output of said first circuit" as in the manner of, e.g.,  $BL_1$  and  $BL_0$  in Fig. 7, then saying that both circuits are "supplied with an external supply

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voltage" is vague and confusing. In lines 12 and 13, "the output" lacks a definite antecedent basis. Interpretation of the claim as it stands can accordingly only be the result of pure guesswork. Applicant is requested to indicate, for the examiner, which of the disclosed embodiments the claim is directed to.

In claim 8, in lines 3-4 and lines 6-7, "the output of said first circuit" lacks a definite antecedent basis. In line 5, "feedback circuit" is apparently misdescriptive, and does not appear in the specification. Applicant is requested to indicate, for the examiner, at least one of the disclosed embodiments to which the claim is directed.

In claims 9 and 10, "the output of said first circuit" lacks a definite antecedent basis.

In claims 11-14, "the output voltage" lacks a definite antecedent basis, and "aging test" apparently lacks a grammatical article.

In claim 15, in lines 3 and 8, "which outputs a voltage" should apparently read as "for outputting a voltage", as the outputting of, e.g. "a voltage changing at a second rate" is apparently the result of the conductances of the "first circuit" and "second circuit" working in combination, not of voltages working separately. In line 6, "predetermined voltage" apparently lacks a grammatical article. In lines 10-11, "the output voltage of said first circuit" lacks a definite antecedent basis. In lines 12 and 13, "the output" lacks a definite antecedent basis. Interpretation of the claim as it stands can accordingly only be the result of pure guesswork. Applicant is requested to indicate, for the examiner, which of the disclosed embodiments the claim is directed to.

In claim 16, in lines 3-4 and lines 6-7, "the output of said first circuit" lacks a definite antecedent basis. In line 5, "feedback circuit" is apparently misdescriptive, and does not appear in the specification.

In claims 17 and 18, "the output of said first circuit" lacks a definite antecedent basis.

In claims 19-22, "the output voltage" lacks a definite antecedent basis, and "aging test" apparently lacks a grammatical article.

In claim 23, in line 3, "which outputs a voltage" should apparently read as "for outputting a voltage". In line 6, "predetermined voltage" apparently lacks a grammatical

article. In lines 7-8, "the output voltage of said first circuit" lacks a definite antecedent basis. In line 11, "the output of said first circuit" lacks a definite antecedent basis. Applicant is requested to indicate, for the examiner, the basis in the disclosure for lines 13-14, which are apparently incorrect. Interpretation of the claim as it stands can accordingly only be the result of pure guesswork. Applicant is requested to indicate, for the examiner, which of the disclosed embodiments the claim is directed to.

In claim 24, in lines 3-4 and lines 6-7, "the ouput of said first circuit" lacks a definite antecedent basis. In line 5, "feed back circuit" (sic) is apparently misdescriptive, and does not appear in the specification. In line 6, "said first MOS transistor" lacks an antecedent basis.

In claims 25 and 26, "aging test" apparently lacks a grammatical article.

In claim 27, in line 3, "which outputs a voltage" should apparently read as "for outputting a voltage". In line 6, "predetermined voltage" apparently lacks a grammatical article. In lines 7-8, "the output voltage of said first circuit" lacks a definite antecedent basis. In line 11, "the output of said first circuit" lacks a definite antecedent basis. Interpretation of the claim as it stands can accordingly only be the result of pure guesswork. Applicant is requested to indicate, for the examiner, which of the disclosed embodiments the claim is directed to.

In claim 28, in lines 3-4 and lines 6-7, "the ouput of said first circuit" lacks a definite antecedent basis. In line 5, "feedback circuit" is apparently misdescriptive, and does not appear in the specification.

In claims 29 and 30, "aging test" apparently lacks a grammatical article.

In claim 31, "the ouput voltage of said first circuit" lacks a definite antecedent basis, "aging test" apparently lacks a grammatical article, and "test" should apparently be followed by "performed."

In claim 32, in line 3, "which outputs a voltage" should apparently read as "for outputting a voltage". In line 4, "small dependence" is vague and apparently misdescriptive,

as it does not appear in the specification. In line 6, "predetermined voltage" apparently lacks a grammatical article.

In claim 33, in line 3, "operated by supplied with ..." is apparently a non-sequitur. A basis in the specification for a "fourth circuit ... which transfers a signal to said internal circuit" is not apparent. Applicant is requested to indicate, for the examiner, at least one of the disclosed embodiments to which the claim is directed.

In claim 35, "that" should apparently read as "a device."

In claim 36, a basis in the specification for "a larger thickness of a gate insulator" is not apparent, despite the presence of PRIOR ART Fig. 2.

In claim 39, "voltage reference is determined" should apparently read as "reference voltage is determined."

In claim 41, "the output voltage of said first circuit" lacks a definite antecedent basis, "aging test" apparently lacks a grammatical article, "test" should apparently be followed by "performed."

In claim 42, it is unclear what "larger" could be relative to, as "the changing rate" is apparently already limited by the claim to be "a first rate", "the output voltage of said first circuit" lacks a definite antecedent basis, "aging test" apparently lacks a grammatical article.

In claim 43, a basis in the specification for a "third circuit ... which transfers a signal to said internal circuit" is not apparent.

In claim 45, "that" should apparently read as "a device."

In claim 46, a basis in the specification for "a larger thickness of a gate insulator" is not apparent.

In claim 49, "voltage reference is determined" should apparently read as "reference voltage is determined."

In claim 51, "the output voltage of said first circuit" lacks a definite antecedent basis, "is to" should apparently be deleted as "enable", "aging test" apparently lacks a grammatical article, "test" should apparently be followed by "performed."

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In claim 52, a basis in the specification for a "third circuit ... which transfers a signal to said internal circuit" is not apparent.

In claim 54, "that" should apparently read as "a device."

In claim 55, a basis in the specification for "a larger thickness of the gate insulator" is not apparent.

In claim 58, "voltage reference is determined" should apparently read as "reference voltage is determined", "threshold voltage" apparently lacks a grammatical article, "said first MOS transistor" lacks an antecedent basis.

In claim 60, "the output voltage of said first circuit" lacks a definite antecedent basis, "aging test" apparently lacks a grammatical article, "test" should apparently be followed by "performed."

In claim 61, it is unclear what "larger" could be relative to, as "the changing rate" is apparently already limited by the claim to be "a first rate, "the output voltage of said first circuit" lacks a definite antecedent basis, "aging test" apparently lacks a grammatical article.

In claim 62, a basis in the specification for a "third circuit ... which transfers a signal to said internal circuit" is not apparent.

In claim 64, "that" should apparently read as "a device."

In claim 65, a basis in the specification for "a larger thickness of a gate insulator" is not apparent.

In claim 68, "voltage reference is determined" should apparently read as "reference voltage is determined."

In claim 70: in line 3, "which outputs a voltage" should apparently read as "for outputting a voltage". In lines 3-4, "small dependence" is vague and apparently misdescriptive, as it does not appear in the specification. In lines 5-6 and 12, "predetermined voltage" apparently lacks a grammatical article. In lines 10-11, "... makes the amplitude ... when ... to be larger" is apparently awkwardly worded. In line 11, "the output voltage of said first circuit" lacks a definite antecedent basis. Interpretation of the claim as it stands can

accordingly only be the result of pure guesswork. Applicant is requested to indicate, for the examiner, which of the disclosed embodiments the claim is directed to.

In claim 71, "the output of said second circuit" lacks a definite antecedent basis.

In claim 72, "the output voltage of said first circuit" lacks a definite antecedent basis, "aging test" apparently lacks a grammatical article, "test" should apparently be followed by "performed."

In claim 73, "the output voltage of said first circuit" lacks a definite antecedent basis, "... makes the dependence ... larger ..." is vague and apparently misdescriptive, as it does not appear in the specification, "aging test" apparently lacks a grammatical article.

In claim 74, "small dependence" is vague and apparently misdescriptive, as it does not appear in the specification, "predetermined voltage" apparently lacks a grammatical article.

In claim 75, a basis in the specification for a "fourth circuit ... which transfers a signal to said internal circuit" is not apparent.

In claim 77, "that" should apparently read as "a device."

In claim 78, a basis in the specification for "a larger thickness of a gate insulator" is not apparent.

In claim 81, "voltage reference is determined" should apparently read as "reference voltage is determined."

In claim 82, in line 5, "feedback circuit" is apparently misdescriptive, and does not appear in the specification. In lines 5-6, "the output of said second circuit" lacks a definite antecedent basis.

In claim 84, "the output of said second circuit" and "the output of said second circuit" lack a definite antecedent basis.

In claim 85: in line 3, "which outputs a voltage" should apparently read as "for outputting a voltage". In line 6, "predetermined voltage" apparently lacks a grammatical article. In lines 8-9, "the output voltage of said first circuit" lacks a definite antecedent basis. In line 11, it is unclear what "larger" could be relative to, as "the changing rate" is apparently already limited by the claim to be "a first rate." Interpretation of the claim as it

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stands can accordingly only be the result of pure guesswork. Applicant is requested to indicate, for the examiner, which of the disclosed embodiments the claim is directed to.

In claim 86, "the output of said second circuit" lack a definite antecedent basis.

In claim 87, "the output voltage of said first circuit" lacks a definite antecedent basis, "aging test" apparently lacks a grammatical article, "test" should apparently be followed by "performed."

In claim 88, it is unclear what "larger" could be relative to, as "the changing rate" is apparently already limited by the claim to be "a first rate", "the output voltage of said first circuit" lacks a definite antecedent basis.

In claim 89, "which outputs a voltage" should apparently read as "for outputting a voltage", "small dependence" is vague and apparently misdescriptive, as it does not appear in the specification, "predetermined voltage" apparently lacks a grammatical article.

In claim 90, a basis in the specification for a "fourth circuit ... which transfers a signal to said internal circuit" is not apparent

In claim 92, "that" should apparently read as "a device."

In claim 93, a basis in the specification for "a larger thickness of a gate insulator" is not apparent.

In claim 96, "voltage reference is determined" should apparently read as "reference voltage is determined."

In claim 97, "feedback circuit" is apparently misdescriptive, and does not appear in the specification, "the output of said first circuit" lacks a definite antecedent basis.

In claim 99, "the output of said second circuit" and "the output of said second circuit" lack a definite antecedent basis.

In claim 100: The recited interrelationships between the "first circuit", the "source-drain path" and the "external supply voltage" appear to be inconsistent, as the "external supply voltage" is recited to be "supplied" to the "first circuit", and the "source-drain path" is recited to be "coupled between the external supply voltage and said first circuit." In line 3, "which outputs a voltage" should apparently read as "for outputting a voltage". In line 6,



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"predetermined voltage" apparently lacks a grammatical article. In lines 7-8, "the output voltage of said first circuit" lacks a definite antecedent basis. Applicant is requested to indicate, for the examiner, the basis in the disclosure for lines 13-14, which are apparently incorrect. Interpretation of the claim as it stands can accordingly only be the result of pure guesswork. Applicant is requested to indicate, for the examiner, which of the disclosed embodiments the claim is directed to.

In claim 101, "the output of said second circuit" lacks a definite antecedent basis.

In claim 102, "aging test" apparently lacks a grammatical article.

In claim 103, a basis in the specification for a "third circuit ... which transfers a signal to said internal circuit" is not apparent.

In claim 105, "that" should apparently read as "a device."

In claim 106, a basis in the specification for "a larger thickness of the gate insulator" is not apparent.

In claim 109, "voltage reference is determined" should apparently read as "reference voltage is determined."

In claim 110, "feedback circuit" is apparently misdescriptive, and does not appear in the specification, "the output of said first circuit" lacks a definite antecedent basis.

In claim 112, "the output of said second circuit" and "the output of said second circuit" lack a definite antecedent basis.

In claim 113: The recited interrelationships between the "first circuit", the "source-drain path" and the "external supply voltage" appear to be inconsistent, as the "external supply voltage" is recited to be "supplied" to the "first circuit", and the "source-drain path" is recited to be "coupled between the external supply voltage and said first circuit". In line 3, "which outputs a voltage" should apparently read as "for outputting a voltage". In line 6, "predetermined voltage" apparently lacks a grammatical article. In lines 7-8, "the output voltage of said first circuit" lacks a definite antecedent basis. Interpretation of the claim as it stands can accordingly only be the result of pure guesswork. Applicant is requested to indicate, for the examiner, which of the disclosed embodiments the claim is directed to.

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Applicant is requested to indicate, for the examiner, which of the numerous disclosed embodiments is being recited by the claim. In line 6, "predetermined voltage" apparently lacks a grammatical article.

In claim 115, "aging test" apparently lacks a grammatical article.

In claim 116, a basis in the specification for a "third circuit ... which transfers a signal to said internal circuit" is not apparent.

In claim 118, "that" should apparently read as "a device."

In claim 119, a basis in the specification for "a larger thickness of a gate insulator" is not apparent.

In claim 122, "voltage reference is determined" should apparently read as "reference voltage is determined."

In claim 123, "feedback circuit" is apparently misdescriptive, and does not appear in the specification, "the output of said first circuit" lacks a definite antecedent basis.

In claim 125, "the output of said first circuit" and "the output of said second circuit" lack a definite antecedent basis.

4. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

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5. Claims 7-125 are rejected under 35 U.S.C. § 103 as being unpatentable over Japanese laid open specification 55-47414 to Yoshioka (hereinafter "Yoshioka").

Yoshioka discloses a linearizer circuit provided with an "external voltage"  $E_i$ . Yoshioka does not disclose providing the linearizer as an "integrated circuit", i.e., on a single chip. It would have been obvious to a person having ordinary skill in the art to provide the linearizer disclosed by Yoshioka in an "integrated circuit" because the advantages of a single IC over numerous discrete components are well known.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Baker whose telephone number is (703) 305-9681. The examiner can normally be reached Mon.-Thurs. from 8:30 AM to 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy Envall, can be reached on (703) 305-9706. The fax phone number for this Group is (703) 305-9564. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3800.

SMB  
July 17, 1995



STEPHEN M. BAKER  
PRIMARY EXAMINER  
GROUP 2300